my service may not be fully installed for another seven to ten days. I politely explained that I was extremely unhappy with the way the whole shebang is going and I wonder how I will explain all that I am going through to those people who will be attending our Internet Seminars where I will be talking about ISDN and all of its advantages. I don't think he was happy to hear that. I also mentioned that it would probably be a safe bet to determine a due date for service and maybe figure out where the wires are a day or two ahead of time. Either that or get the date and add a couple of days to it just to keep people from burning a whole day waiting for something that isn't going to happen. Basically what it came down to was that Ameritech was not prepared to start installing residential ISDN service and I just happened to be the first residential installation under the new tariffs. Oh I love being on the bleeding edge!

So, two days later, I get this call at work and wouldn't you know it, it's Ameritech telling me that my line is in and is working! Well, I could hardly stand working for the rest of the day in anticipation of going home to speed. I like speed. I sped home so I could hookup and see just how fast speed was. I hooked up my Adtran ISU 128 terminal adapter to my serial port and to the telephone line, entered the Service Profile Identifier (SPID) via the Adtran front panel, set it up for 57.6 Kbps async and saw ISDN Ready on the display. The SPID is actually a sequence of digits used to identify the ISDN terminal adapter to the ISDN switch at the telephone company central office. They give you this number, and it is basically your telephone number with a couple of extra digits. I dialed Aquila Internet. Nothing.

Now I knew that I had the same identical Adtran at the other end of the connection and between Steve Williams (of Aquila) and myself, we burnt the whole evening trying to connect to each other. Nothing. The next evening we tried again. Nothing again. Fortunately, I had been talking to Adtran Tech Support and was able to get their tech support to stick around and help us out. After about two hours, we finally determined that the ISDN service supplied to Aquila was only allowing a connection at 56 Kbps, not 64 Kbps as it should have been. Well, this was not going to work for us at 57.6 Kbps async so we again had to give up. As Jack would say, Booger. I said something unprintable.
As you can imagine, by this time I am pretty livid. I called Team Data and explained the problem. I didn't get a response from them so I decided to give Vogt a call at Resource Communications and explain the problem to him and see if he could blow some air up Ameritech's skirt to get them rolling. This did the trick. The problem, as it was explained to me, was when Ameritech upgraded their service to the remote that Aquila got their service through, one of the software settings on a switch did not get updated correctly. They fixed it and Steve and I again sat down and tried to connect. Bingo, first try and I was zipping along the information superhighway at 57.6 Kbps from my desktop. Now this was more like fast than what I was used to as being fast. Then we decided to try a 115.2 Kbps bonded connect. This basically connects BOTH 64 Kbps bearer channels for a total of 128 Kbps link, but on an asynchronous serial connection this is actually 115.2 Kbps. To do it, you simply set the Adtran configuration to 115.2 Kbps. That is, the Adtran configuration on BOTH ends has to be set to 115.2 Kbps. And I was surprised that we didn't have to do anything else to accomplish this "bonding" of the two B channels. We made the connection on the first try. This was a little faster than plain fast. Too bad that it took one day longer than it took God to make the heavens and the earth to get it installed and running.
Not only was the connection fast at transferring huge ugly graphic images, but it is fast at making the connection itself. The 28.8 Kbps modems can spend 30 to 45 seconds dialing up the service, going through the handshake and talking to itself before you are on the net. With ISDN, this entire process reduces to no more than five seconds from the time you click a Windows icon until you are hooked up and going through the login process. Further, there are no hissing beeping squalling noises coming from the Adtrans. It blinks a couple of times and you're there.

I guess that the end result of all of this was that I now have real speed and power on my desktop. I also know when I am getting a load of bunk from Ameritech. Another interesting result was that I have since ordered another ISDN line that was installed where we hold our seminars. It was in and working on the day promised. Go figure. Was it worth it? Hey, it's fast and I do like speed.

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HERE COME THE KNOWBOTS

by Kevin M. Savetz

Knowbot - an independent, self-acting computer program that seeks for information on behalf of a user, possibly replicating itself on other hosts on the network. As the knowbot performs its task, it sends reports back to the user, and self-destructs when it completes its task.

Although it sounds like a character from a William Gibson novel, the concept of the "knowbot," an automated program which searches for information for you, is slowly becoming a reality on the Internet. Knowbots stand to change the face of research and information retrieval: rather than spending hours searching for an electronic needle in a virtual haystack, why not let the information come to you?

I first wrote about a kind of Knowbot for Boardwatch in an article about the Stanford Netnews Filtering Service. It's a program that periodically searches the entire Usenet for the information you request and e-mails any "hits" back to you. (For information about it, send mail to **netnews@db.stanford.edu** with the word "**help**" in the message body.)

I'm happy to report that the concept and power of knowbots are expanding on the 'net. The actual implementation of today's knowbots are decidedly less sexy than the futuristic-sounding self-replicating, auto-destructing Knowbot defined above. And they still don't resemble the fancy animated "agents" that Apple Computer predicted in a furturistic promotional video a few years ago. Still, knowbots are very handy as automated news clipping services. Here we'll examine what you can do with two more Knowbot utilities - another one from Stanford and one by the folks at San Jose Mercury News.

MERCURY CENTER NEWSHOUND

The Mercury Center NewsHound is an easy-to-use news clipping service that

offers the first low-cost news search agent aimed at consumers. NewsHound automatically searches the stories and classified ads in the San Jose Mercury News as well as hundreds of stories not published in the paper. Articles and ads matching your interests are sent directly to you via e-mail.

Here's how it works: once you sign up, you send a search request via e-mail to the NewsHound program. Every hour or so, NewsHound checks to see if any of its recent news and ads match your request. It automatically sends the ones that do to you via electronic mail. I use the service to send me articles about online services, my favorite musicians and ads for used computers. One might also use it to scope out editorials about Newt Gingrich, news about your home town or ads for used Pintos.

Each request that you submit includes lists of "required" terms, "possible" ones and "excluded" terms - phrases that you just don't want to hear about. The NewsHound uses a type of fuzzy logic to find the most relevant articles and advertisements. Essentially this involves counting the number of "possible" and "required" terms found in an article and then assigning the article a "selectivity" score. The score of an article ranges from 1 to 100. The higher the number, the more relevant the article.

NewsHound searches a variety of newsy databases in pursuit of your information needs, including the San Jose Mercury News, the Chicago Tribune, Detroit Free Press, Miami Herald, Philadelphia Inquirer, The New York Times News Service, The Associated Press, PR Newswire as well as published and unpublished articles from 60 other sources, for a total of about 2,000 articles each day.

NewsHound isn't free, but it's inexpensive enough to be affordable for just about everyone. The special rate for charter subscribers is **$4.95** per month for up to five search profiles. That is a flat rate that applies regardless of the number of stories or ads delivered to your e-mailbox during the month. (The rate for non-charter subscribers will be **$9.95** each month.)

To register to use NewsHound, call **1-(800)818-NEWS** or **(408)297-8495**. For more information, send electronic mail to **newshound-support@sjmercury.com**.

COMPUTER SCIENCE TECHNICAL REPORT SERVICE

As part of the DARPA Electronic Library Project, the Database Group at Stanford provides a free service to disseminate information about computer science technical reports. If you're a computer scientist, listen up. And if you're not, listen anyway: this will still give you an idea of the power of knowbots.

A user interested in receiving bibliographical records of technical reports available from the Math/Computer Science Library at Stanford submits his "interest profile" to the service. Periodically you will receive new information relevant to his interests via electronic mail.

Queries are formed as plain English text (for example "high speed fiber optics communication") submitted via e-mail. Abstracts of technical reports are returned based on their relevancy to your query. As new and relevant reports are added to the database, the Knowbot will inform you. Some of them are available digitally - you can receive the full text with a simple e-mailed request. For others, you'll have to trek to your local library (or Stanford's) for the actual report. For more information about using the service, send e-mail with word "**help**" in message body to **elib@db.stanford.edu**

WHAT'S NEXT?

Admittedly, computer science technical reports are pretty dry and only of interest to a small group, but imagine what might be done with other databases running on Knowbot servers. How about a recipe database, updated weekly, that automagicly e-mails you vegetarian recipes featuring red potatoes or asparagus (but not beets)? Or an archive of Boardwatch articles that sends you everything mentioning Macintosh, except for stuff by that pesky John Dvorak? Stay tuned. I predict those things (and more) are coming to the Internet, sooner or later.

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Example of Newshound service

[To: **NewsHound@sjmercury.com**
Subject: request
create: music
search: articles
possible: laurie anderson,negativland,they might be giants
selectivity: 20
—
From: **NewsHound@sjmercury.com** (NewsHound)

To: **savetz@northcoast.com**
Subject: Your NewsHound request

You now have 3 NewsHound profiles. Their attributes are:

Title: INTERNET
Search: articles
Possible: internet,online service,online service,worldwideweb,
mosaic, compuserve, america online,eworld,prodigy
Excluded: information superhighway
Selectivity: 30

Title: MUSIC
Search: articles
Possible: laurie anderson,negativland, they might be giants
Selectivity: 20

Title: SUN
Search: ads
Possible: sun,sparc,sparcstation,unix, macintosh,mac
Required: for sale
Selectivity: 50
—
From: NewsHound@sjmercury.com (NewsHound)
To: **savetz@northcoast.com**
Subject: [30] STUDENT-RUN RADIO STATION A FIRST
ON THE INTERNET

Selected by your NewsHound profile entitled "INTERNET." The selectivity score was 30 out of 100.

Student-Run Radio Station a First on The Internet
By JULIANNE BASINGER, Associated Press Writer

CHAPEL HILL, N.C. (AP) — The campus radio station at the University of North Carolina is serving up its musical fare to a wider audience these days: Listeners abroad can jam along — if they have the right computer.

WXYC-FM recently jumped onto the Internet, becoming the first radio station to offer 24-hour programming on the air and the global computer network simultaneously.

People who want to listen can do so by gaining access to the university's site on the World Wide Web, a part of the Internet that has become popular because of the development of sound, video and graphical features. ◆